Program 8088 – Saint Paul Interceptor System Improvements

Left: Cured-in-Place (CIP) pipe liner being installed through a maintenance hole. Right: Large-diameter interceptor sewer pipe segments ready for installation.

Description

The interceptors located in Saint Paul, Maplewood, Roseville, New Brighton, Shoreview, and Vadnais Heights need rehabilitation and/or replacement due to age and deterioration. The project will rehabilitate existing interceptor facilities to ensure reliable service.

Purpose and justification

The Saint Paul Interceptor System Rehabilitation Program was developed to address areas of severe corrosion in the interceptor sewer system in Saint Paul and surrounding suburbs. Internal corrosion of concrete sewer pipes and structures creates structural weakness that creates a risk for collapse and potential loss of service or wastewater spills. Projects have been identified to rehabilitate the existing sewers using trenchless means, such as cured-in-place pipe or slip lining, where possible.

Program location

The active projects within this program are in the following Council districts: 10, 13, and 14

New program additions

Category	Details
Scope	Rehabilitation of 4,000 feet of 15 to 48-inch interceptor pipe.
Assets	1-SP-217, 1-SP-215, 1-SP-224, 8851, 1-SP-220, 1-SP-200, 1-SP-230 (includes meter M058)
Communities	Saint Paul
Added budget	$4,000,000
Construction years	2029 through 2031

Active projects in program

Project Number	Project Title
808800	Saint Paul Interceptor System (SPIS) Rehabilitation (Parent Project)
808811	Riverview Siphon 1-SP-230 Improvements
808812	Greater Eastside Saint Paul Rehabilitation

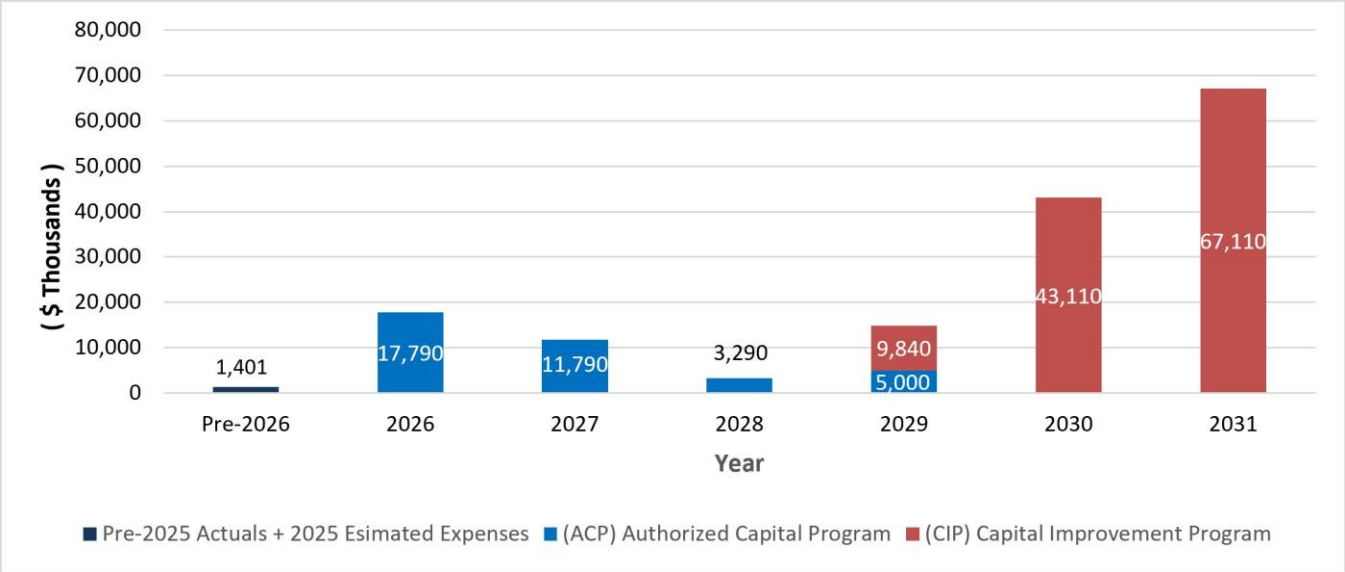
Project Number	Project Title
808861	Grass Lake Interceptor Rehabilitation
808864	West Side Sandstone Tunnel Rehabilitation
808879	1-MS-100 Condition Assessment
808882	1-MS-100 Rehabilitation Feasibility Study
808884	Saint Paul Interceptor System Study

Environmental Services 2026 through 2031 Capital Program

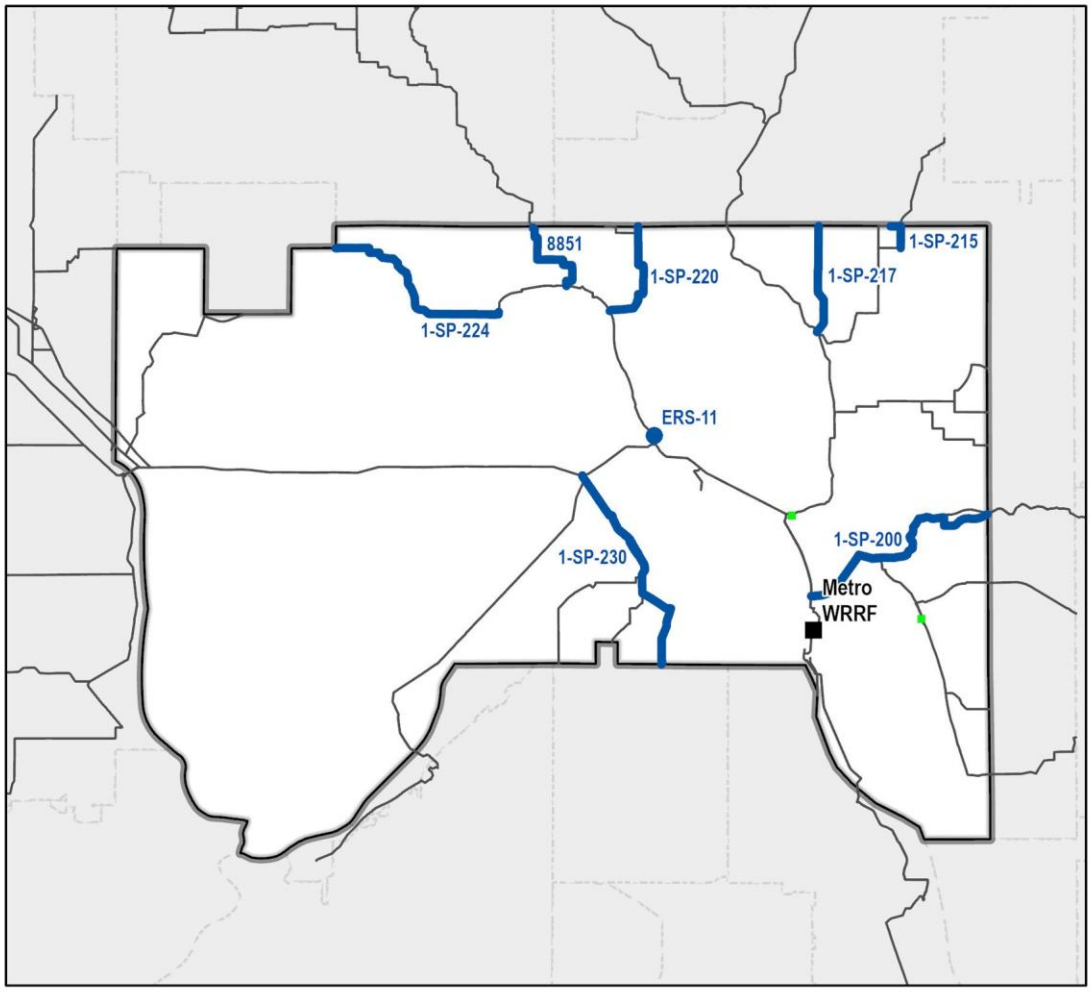
- Authorized Capital Program (ACP): $39,271,247
- Capital Improvement Plan (CIP): $120,060,000

Estimated program cash flow from 2026 through 2031

Note: the ACP is the total amount of all past and present authorizations including pre-2026 expenses.



Saint Paul Area Program map – New Projects



St. Paul Capital Improvement Projects (CIP)

MCES Wastewater Treatment System

- Lift Stations
- Water Resource Recovery Facilities (WRRF)
- Interceptors

- Interceptors with CIP
- Structures with CIP

Boundaries

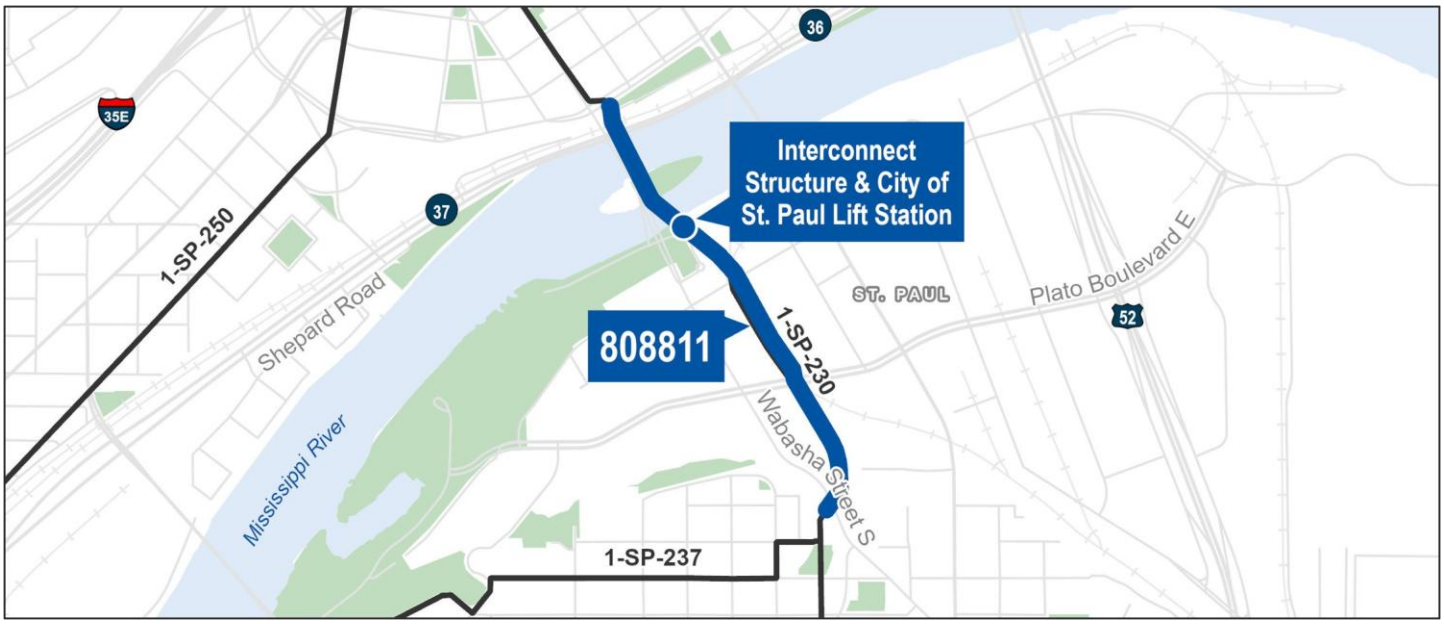
- Community
- St. Paul

0 1 2 3 4 Miles

Riverview Siphon 1-SP-230 Improvements

Program family 8088 **Project #808811**

Project location: Council District #13, City of Saint Paul



Map of Project #808811 along Wabasha Street in Saint Paul

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Improvements to the headhouse and tailhouse as well as the construction of a fourth pipe across the river.

Project need
Flow monitoring and a system evaluation have determined that the three pipes under the Mississippi River are limited in capacity during peak flows. There is also limited ability to inspect the three pipes, which places the facility under greater risk.

Planning: 2025 through 2026	Design: 2026 through 2028	Construction: 2028 through 2030

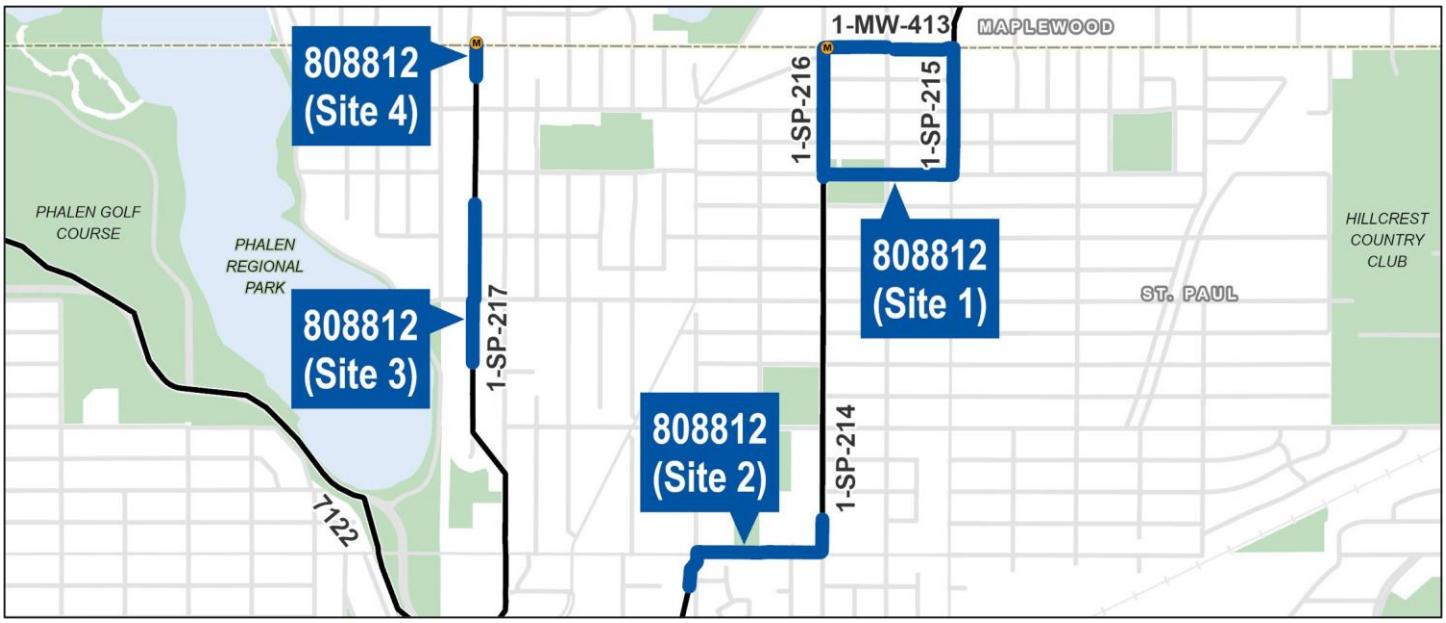
Financial analysis

2026 cash flow:	$200,000
Current ACP:	$800,000
2026 through 2031 cash flow:	$33,800,000
Total project cost:	$33,900,000

Greater Eastside Saint Paul Rehabilitation

Program family 8088 **Project #808812**

Project location: Council district #13, City of Saint Paul



Map of project #808812 just east of Phalen Regional Park in Saint Paul

Project type
Interceptor Rehabilitation

Objectives
Asset Preservation

Scope
The project will use cured-in-place pipe (CIPP) fir approximately 6,800 feet of pipe across 3 sites near Larpenteur Avenue, White Bear Avenue, Kennard Street, and Maryland Avenue East. It also includes slip lining oversized pipe, maintenance hole rehabilitation using fiberglass inserts, or complete replacement. M011 will be moved to the south side of Larpenteur on McAfee Street and the flume at M010 will be reset to accommodate for the new liner.

Project need
The reinforced concrete pipe at all sites is showing signs of deterioration such as cracking and ribbing. M011 has a poor hydraulic approach and is currently in the way of a bike path that Ramsey County will be constructing in 2027.

Planning: 2025	Design: 2025 through 2027	Construction: 2027 through 2029

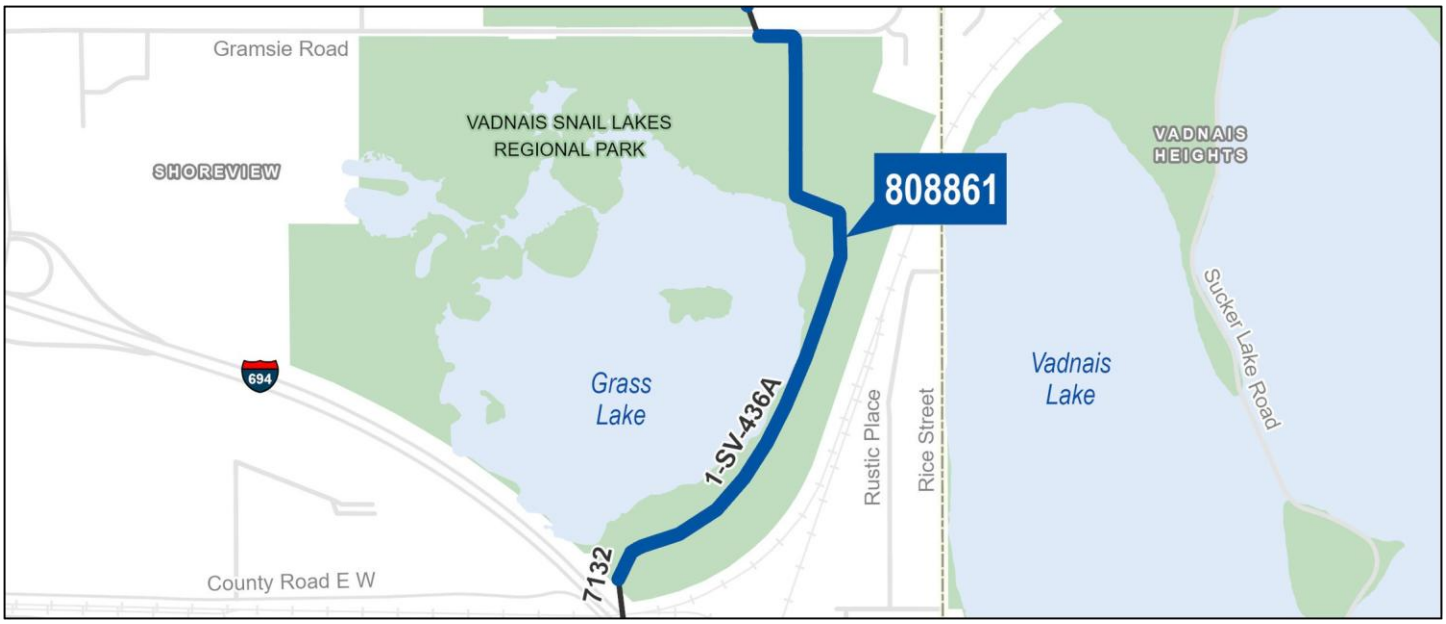
Financial analysis

2026 cash flow:	$150,000
Current ACP:	$1,133,000
2026 through 2031 cash flow:	$9,450,000
Total project cost:	$9,500,000

Grass Lake Interceptor Rehabilitation

Program family 8088 **Project #808861**

Project location: Council district #10, City of Shoreview



Map of Project #808861 location along the east side of Grass Lake in Shoreview

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Realign MH-1 to MH-15 to improve access and reduce inflow and infiltration (I/I) along Grass Lake.

Project need
To relocate the interceptor to provide year-round access, prevent flooded structures, and prevent I/I as lake levels continue to rise.

Planning: 2019	Design: 2020 through 2025	Construction: 2026 through 2028

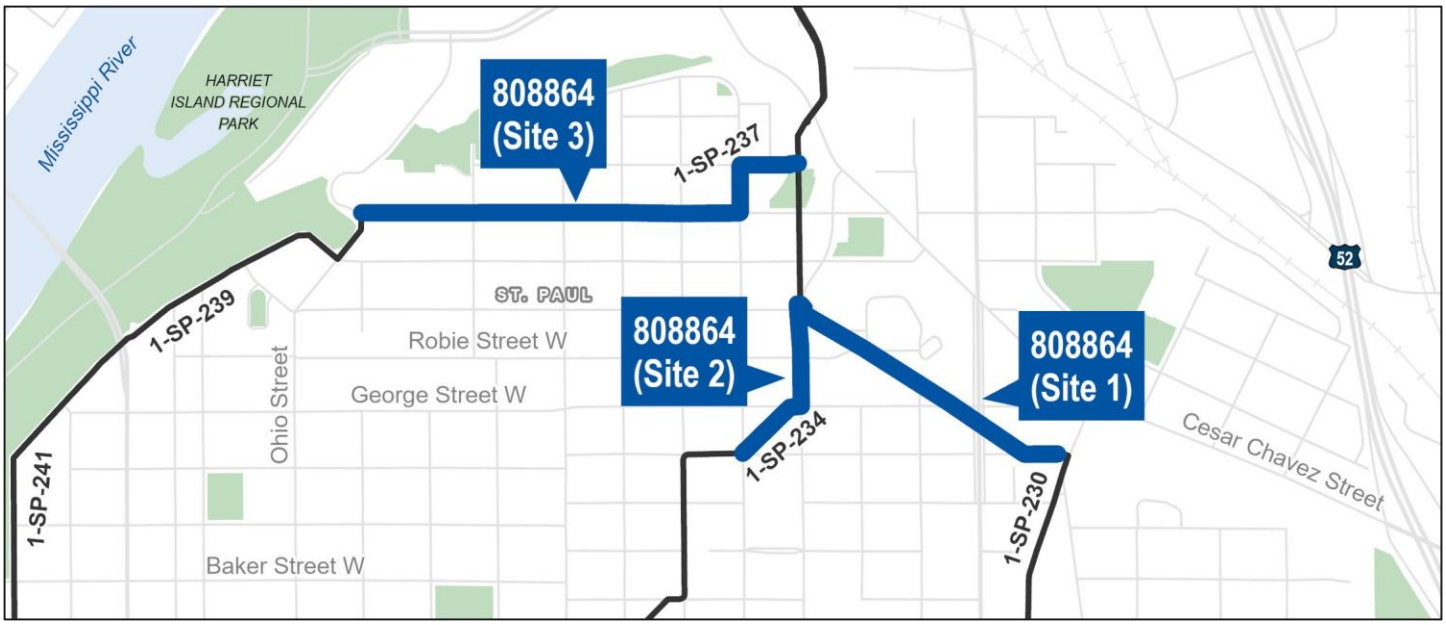
Financial analysis

2026 cash flow:	$15,000,000
Current ACP:	$2,060,500
2026 through 2031 cash flow:	$20,500,000
Total project cost:	$22,534,000

West Side Sandstone Tunnel Rehabilitation

Program family 8088 **Project #808864**

Project location: Council district #13, City of Saint Paul



Map of project #808864 locations near City of Saint Paul's West Side

Project type
Interceptor Improvements

Objectives
Asset Preservation, Quality Improvements

Scope
This project consists of constructing 5,000 linear feet of local sanitary sewer parallel to Site 2 interceptor 1-SP-234, and Site 3 interceptor 1-SP-237, repairing eroded sandstone tunnels, and improving access at the junction of 1-SP-230 and 1-SP-234 by adding a new structure.

Project need
97 privately owned drift tunnel connections have had little to no maintenance since originally being constructed between 1886 and 1889. Condition assessments completed by confined space entries in these tunnels revealed varied amounts of erosion in the tunnels' shoulders and crowns, fractures, missing bricks, and failed connections. This project will reduce system inflow and infiltration (I/I), increase system reliability, and reduce risk to Council and private properties that are currently directly connected to the tunnels.

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Planning: 2024 through 2025	Design: 2026 - 2027	Construction: 2027 - 2029

Financial analysis

2026 cash flow:	$150,000
Current ACP:	$1,980,000
2026 through 2031 cash flow:	$3,150,000
Total project cost:	$3,350,000

1-MS-100 Condition Assessment

Program family 8088 **Project #808879**

Project location: Council districts #13 and 14; City of Saint Paul

1-MS-100 project extent

Project type
Interceptor Condition Assessment or Study

Objectives
Asset Preservation

Scope
Completion of a condition assessment for 1-MS-100. This work includes groundwater and subdrain monitoring, closed circuit television (CCTV)/multi-sensor inspection (MSI), geophysical assessment to understand void extents, georeferencing including tying a 3-D scan of the interceptor to surveyed points, and possible invert inspection.

Project need
1-MS-100 is a deep tunnel interceptor sewer collecting flows from parts of Saint Paul, Minneapolis, and over 40 communities upstream of Minneapolis. Previous inspections and evaluations have identified segments of 1-MS-100 that are experiencing concrete corrosion, large-scale infiltration points, possible exposed reinforcing steel, and void space above the concrete pipe. The condition of 1-MS-100 combined with its criticality to daily operations make improvements to 1-MS-100 a high priority where an updated condition assessment is the first step.

Planning: 2026 through 2026	Design: 2026 through 2027	Construction: 2027 through 2029

Financial analysis

2026 cash flow:	$1,500,000
Current ACP:	$0
2026 through 2031 cash flow:	$11,600,000
Total project cost:	$11,600,000

1-MS-100 Rehabilitation Feasibility Study

Program family 8088 **Project #808882**

Project location: Council districts #13 and 14; City of Saint Paul

1-MS-100 project extent

Project type
Interceptor Rehabilitation

Objectives
Asset Preservation

Scope
Evaluation of the 1-MS-100 interceptor and rehabilitation of identified interceptor sections. System evaluation includes a review of temporary conveyance options and resiliency improvements.

Project need
1-MS-100 is a deep tunnel interceptor sewer collecting flows from parts of Saint Paul, Minneapolis, and over 40 communities upstream of Minneapolis. Previous inspections and evaluations have identified segments of 1-MS-100 that are experiencing concrete corrosion, large-scale infiltration points, possible exposed reinforcing steel, and void space above the concrete pipe. The condition of 1-MS-100 combined with its criticality to daily operations make improvements to 1-MS-100 a high priority.

Planning: 2025 through 2028	Design: N/A	Construction: N/A

Financial analysis

2026 cash flow:	$1,000,000
Current ACP:	$5,111,000
2026 through 2031 cash flow:	$85,000,000
Total project cost:	$206,000,000

Saint Paul Interceptor System Study

Program family 8088 **Project #808884**

Project location: Council district #13 and 14, City of Saint Paul

Photo of a LaserFlow flow monitor inside ES interceptor pipe

Project type
Study

Objectives
Asset Preservation

Scope
Provide a long-term study (approximately 5 years) of the regional wastewater system in the City of Saint Paul. The consultant will install and maintain temporary flow meters across the city for two years and use that data to build a hydraulic model of the ES system. Other tasks include identification of areas with high inflow and infiltration (I/I), potential for sewer overflow, and limited hydraulic capacity. Project will also replace the M700 series planning meters which are reaching the end of their useful life.

Project need
To assist in developing a quantitative understanding of flow conditions, define existing and future system limitations, and outline improvements that may be necessary for long-term reliability of the regional system.

Planning: 2023 through 2027	Design: N/A	Construction: N/A

Financial analysis

2026 cash flow:	$500,000
Current ACP:	$1,980,000
2026 through 2031 cash flow:	$1,700,000
Total project cost:	$3,300,000